

# **EASY LIVIN' ACRES (1090039) SOURCE WATER ASSESSMENT REPORT**

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**February 22, 2001**



## **State of Idaho Department of Environmental Quality**

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Under the Federal Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Idaho Department of Environmental Quality is completing the assessments for all Idaho public drinking water systems. The assessment for your particular drinking water source is based on a land use inventory within a 1,000 foot radius of your drinking water source, sensitivity factors associated with the source and characteristics associated with either your aquifer or watershed in which you live.

This report, *Source Water Assessment for Easy Livin' Acres (1090039)* located in Bonner County, Idaho, describes the public drinking water system, the associated potential contaminant sources located within a 1,000' boundary around the drinking water source, and the susceptibility (risk) that may be associated with any associated potential contaminants. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this system. **The results should not be used as an absolute measure of risk and is not intended to undermine the confidence in your water system.**

The Easy Livin' Acres drinking water system consists of two wells. The first well, referred to as the "old well", was drilled in 1974. The well is 480' deep, but was not able to supply the water association with enough flow to meet customer demands. In 1991 a new well was drilled and connected to the existing distribution system in order to supplement flow from the old well. The "new well" is 110' deep. The old and new wells are located very near each other and share source water assessment areas.

### Old Well

The old well received a moderate construction score. The wellhead and surface seal are maintained appropriately and the well is located outside of the 100-year floodplain. The Idaho Department of Water Resources (IDWR) *Well Construction Standards Rules (1993)* require all public water systems (PWSs) to follow DEQ standards as well. IDAPA 58.01.08.550 requires that PWSs follow the *Recommended Standards for Water Works (1997)* during construction. Various aspects of the standards can be assessed from well logs. Table 1 of the *Recommended Standards for Water Works (1997)* states that 6-inch steel casing requires a thickness of 0.280 inches. The old well uses 0.250-inch thick casing.

The well received a high hydrologic sensitivity score. It is located in an area of moderately to well drained soil, which allows for contaminants to travel easily underground. Additionally, there is no protective layer of clay over the water table that would prevent contaminants on the ground's surface from entering the well along the outer wall of the casing. The well's static water level is 40'.

There are a total of six potential contaminants located within the old well's source water assessment area. Five of the sites are private septic systems. The fifth site is the Pend Oreille River. The well is located less than 500' from the river and is required to undergo testing to determine if it is under the direct influence of the surface water (GWUDI). Testing began in April of 2000. The well was assigned moderate potential contaminant/land use scores in the

inorganic chemical and microbial categories. The well's scores for the volatile organic and synthetic organic chemical categories were zero, as there are no sources of these types of contaminants located within the source water assessment area. The old well's overall susceptibility score is moderate in all categories.

#### New Well

Like the old well, the new well was assigned a moderate construction score. While the wellhead and surface seal are acceptable and the well is located outside of the 100-year flood plain, there is a general lack of information available about the new well's construction. Information provided in the form of a well driller's log may change the well's susceptibility scores.

The new well's hydrologic sensitivity score is the same as the old well's: high. The moderately to well drained soil in the area combined with the lack of a significant layer of clay makes the well susceptible to contaminants moving through the soil.

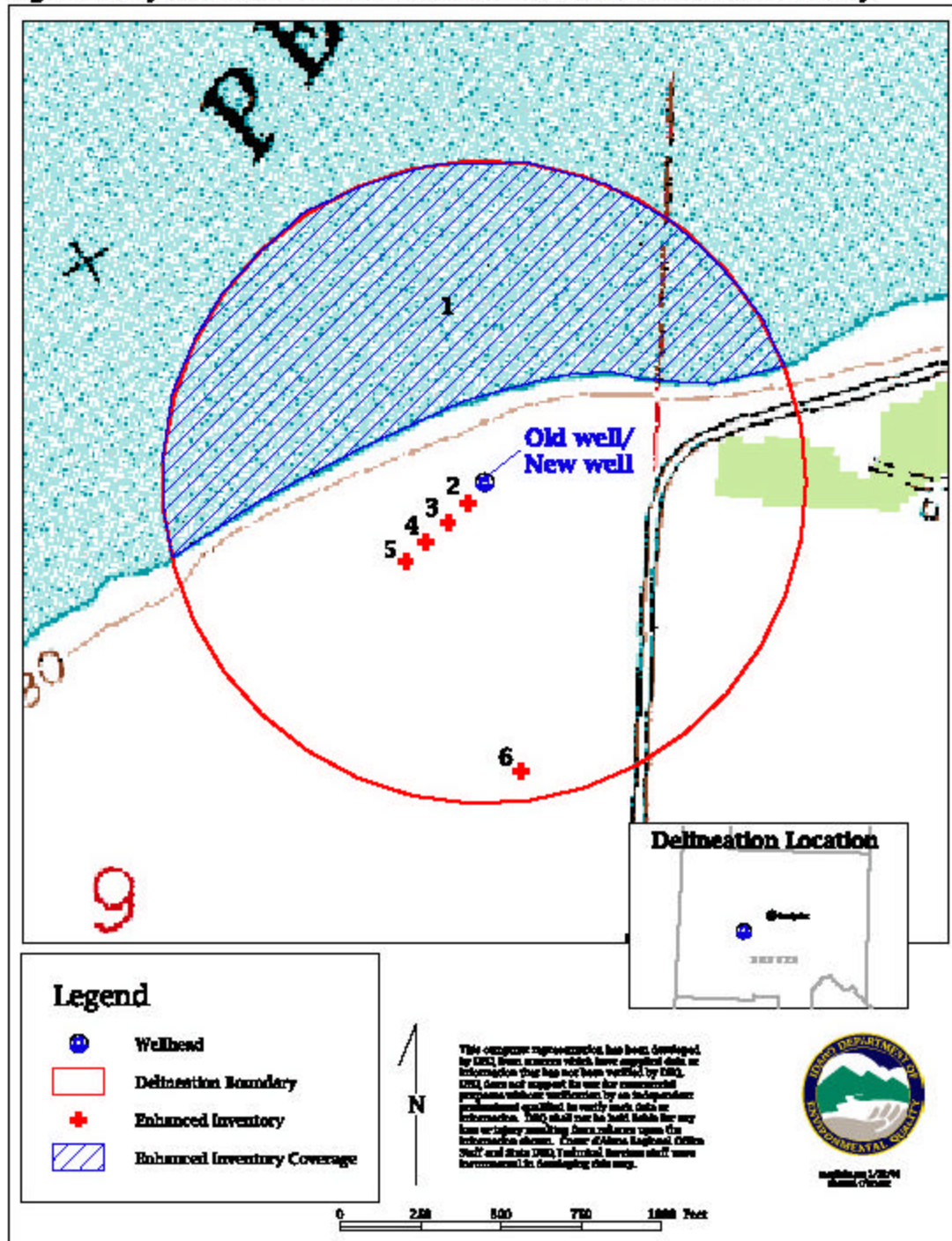
The new well's potential contaminant/land use scores are identical to the old well's scores because the wells share the same source water assessment area. Information regarding the potential contaminants within the wells' 1,000' boundary have been summarized and included in Table 1. The new well is ranked as moderately susceptible to all types of potential contamination. It, too, must be tested to determine if it is under the direct influence of surface water. A copy of the susceptibility analysis for Easy Livin' Acres along with a map showing any potential contaminant sources is included with this summary.

Table 1.

SITE #	Source Description	Source of Information	Potential Contaminants
1	Private Septic System	Enhanced Inventory	IOC, Microbial
2	Private Septic System	Enhanced Inventory	IOC, Microbial
3	Private Septic System	Enhanced Inventory	IOC, Microbial
4	Private Septic System	Enhanced Inventory	IOC, Microbial
5	Private Septic System	Enhanced Inventory	IOC, Microbial
6	Surface Water	Enhanced Inventory	Microbial

*IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical*

Figure 1. Easy Livin' Acres Delineation Location and Potential Contaminant Inventory



This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

Easy Livin’ Acres should focus source water protection activities on implementation of practices aimed at minimizing the potential for microbial contamination of the well. Steps should be taken to educate the owners of private septic systems of the proper way to maintain them. The water association should also make an attempt to verify proper maintenance of the septic systems located near the well. If possible, the water association should prohibit any new septic systems from being located within the source water assessment area in the future. Evaluation of the wells to determine if they are under the direct influence of surface water should also be completed. Source water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term.

For assistance in developing source water protection strategies please contact Alan Miller at the Coeur d’Alene regional IDEQ office at (208) 769-1422.

**DEQ Website:**

<http://www.deq.state.id.us>

## Attachment A

### Easy Livin' Acres Susceptibility Analysis Worksheet

## Ground Water Final Susceptibility Scoring

0-5 = Low Susceptibility

6-12 = Moderate Susceptibility

13-18 = High Susceptibility

1. System Construction		SCORE			
Drill Date	6/27/74				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES	2000			
Well meets IDWR construction standards	NO	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	YES	0			
Highest production 100 feet below static water level	NO	1			
Well located outside the 100 year flood plain	YES	0			
Total System Construction Score		2			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	NO	2			
Vadose zone composed of gravel, fractured rock or unknown	YES	1			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	NO	2			
Total Hydrologic Score		6			
3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	RANGELAND, WOODLAND, BASALT	0	0	0	0
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		0	0	0	0
Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)	YES	5	0	0	6
(Score = # Sources X 2 ) 8 Points Maximum		8	0	0	8
Sources of Class II or III leachable contaminants or	YES	5	0	0	
4 Points Maximum		4	0	0	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B Less Than 25% Agricultural Land		0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		12	0	0	8
Cumulative Potential Contaminant / Land Use Score		12	0	0	8
4. Final Susceptibility Source Score		11	8	8	11
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate



1. System Construction		SCORE			
Drill Date	5/26/91				
Driller Log Available	NO				
Sanitary Survey (if yes, indicate date of last survey)	YES	2000			
Well meets IDWR construction standards	NO	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	NO	2			
Highest production 100 feet below static water level	YES	0			
Well located outside the 100 year flood plain	YES	0			
Total System Construction Score		3			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	NO	2			
Vadose zone composed of gravel, fractured rock or unknown	YES	1			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	NO	2			
Total Hydrologic Score		6			
3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	RANGELAND, WOODLAND, BASALT	0	0	0	0
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		0	0	0	0
Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)	YES	5	0	0	6
(Score = # Sources X 2 ) 8 Points Maximum		8	0	0	8
Sources of Class II or III leachable contaminants or	YES	5	0	0	
4 Points Maximum		4	0	0	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B Less Than 25% Agricultural Land		0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		12	0	0	8
Cumulative Potential Contaminant / Land Use Score		12	0	0	8
4. Final Susceptibility Source Score		12	9	9	12
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate

## POTENTIAL CONTAMINANT INVENTORY

### LIST OF ACRONYMS AND DEFINITIONS

**AST (Aboveground Storage Tanks)** – Sites with aboveground storage tanks.

**Business Mailing List** – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

**CERCLIS** – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as **ASuperfund** is designed to clean up hazardous waste sites that are on the national priority list (NPL).

**Cyanide Site** – DEQ permitted and known historical sites/facilities using cyanide.

**Dairy** – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

**Deep Injection Well** – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

**Enhanced Inventory** – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

**Floodplain** – This is a coverage of the 100year floodplains.

**Group 1 Sites** – These are sites that show elevated levels of contaminants and are not within the priority one areas.

**Inorganic Priority Area** – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

**Landfill** – Areas of open and closed municipal and non-municipal landfills.

**LUST (Leaking Underground Storage Tank)** – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

**Mines and Quarries** – Mines and quarries permitted through the Idaho Department of Lands.)

**Nitrate Priority Area** – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

**NPDES (National Pollutant Discharge Elimination System)**

– Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

**Organic Priority Areas** – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

**Recharge Point** – This includes active, proposed, and possible recharge sites on the Snake River Plain.

**RICRIS** – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

**SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities)** – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

**Toxic Release Inventory (TRI)** – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

**UST (Underground Storage Tank)** – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

**Wastewater Land Applications Sites** – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

**Wellheads** – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

**NOTE:** Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.